

### REMARKS

Applicants have amended claims 1-2, 15, 26-28, 40, and 56, and have canceled claims 1-25 and 51-54 during prosecution of this patent application. Applicants are not conceding in this patent application that said amended and canceled claims are not patentable over the art cited by the Examiner, since the claim amendments and cancellations are only for facilitating expeditious prosecution of this patent application. Applicants respectfully reserve the right to pursue said amended and canceled claims, and other claims, in one or more continuations and/or divisional patent applications.

The Examiner rejected claims 1-50, 52-53 and 55-56 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Stone (US PGPub 2003/0036886) in view of Hickman et al.(US 6,523,036).

Applicants respectfully traverse the § 103 rejections with the following arguments.

### 35 U.S.C. § 103(a)

The Examiner rejected claims 1-50, 52-53 and 55-56 under 35 U.S.C. § 103(a) as allegedly being unpatentable over Stone (US PGPub 2003/0036886) in view of Hickman et al.(US 6,523,036).

Since claims 1-25 and 52-53 have been canceled, the rejection of claims 1-25 and 52-53 35 U.S.C. § 103(a) is moot.

### Definition of “Directly Connected”

In order to explain the meaning of “directly connected” that appears in independent claims 26 and 28, Applicants cite the specification, page 8, lines 1-7: “Two clusters, denoted as a first cluster and a second cluster in a system of clusters such as, *inter alia*, the system 20 of FIG. 1, are directly connected to each other as a matter of definition if a server S1 of the first cluster and a server S2 of the second cluster are directly connected to each other. The servers S1 and S2 are directly connected to each other as a matter of definition if the communication link that connects S1 and S2 does not include any server that intervenes between S1 and S2. Inclusion of the load balancer of the first or second cluster in said communication link does not negate a direct connection between S1 and S2.”

In addition, the specification, page 8, line 7 - page 9, line 19 discusses concrete examples in Applicants’ Figures to illustrate the meaning of “directly connected”.

Based on the preceding quoted definition in the specification, page 8, lines 1-7, it is clear that necessary conditions for two servers S1 and S2 to be directly connected to each other are:

- (1) S1 and S2 must be connected to each other via a communication link; and

(2) the communication link that connects S1 and S2 does not include any server that intervenes between S1 and S2.

Claims 26-27, 40-50, and 55-56

Applicants respectfully contend that claim 26 is not unpatentable over Stone in view of Hickman, because Stone in view of Hickman does not teach or suggest each and every feature of claim 26.

A first example of why claim 26 is not unpatentable over Stone in view of Hickman is that Stone in view of Hickman does not teach or suggest the feature: “each cluster of the network comprising a plurality of identical servers, each cluster of the network being directly connected to at least one other cluster of the network, wherein each pair of clusters directly connected to each other is characterized by **each server in a first cluster of the pair of clusters being directly connected to at least one server in a second cluster of the pair of clusters via a communication link**” (emphasis added).

The Examiner argues that “(Stone discloses ... a network having a plurality of clusters (fig. 12 (#20, #30, and #40) and ¶0026, teach a network having a plurality of clusters... fig. 12, As the term "directly connected" is defined in the specification and demonstrated by the drawings, in summary states if there are not any servers intervening between the two servers, the servers are directly connected (pg. 8 ¶2). Therefore, per applicant's definition the control server (Node Monitor), taught by Stone, is directly connected to at least two servers in each cluster, since there are no intervening servers”.

In response, Applicants respectfully contend that in Stone, FIG. 12, the node monitors 28,

38, and 48 are outside the clusters 20, 30, and 40 and therefore do not satisfy the requirement in the preceding feature of claim 26 which recites that the servers that are directly connected to each other are servers in different clusters. Since the node monitors 28, 38, and 48 are not in the clusters 20, 30, and 40, Applicants assert that Stone does not disclose the preceding feature of claim 26.

In further response, Applicants respectfully contend that even if node monitor 28 is within cluster 20 (which node it is not), node monitor 28 is connected to servers 21-23 in cluster 20, but is not connected to any server in clusters 30 and 40, which means that node monitor 28 is not directly connected to any server in clusters 30 and 40, based on the definition of "directly connected" explained *supra*. Therefore, Stone does not disclose that node monitor 28 is connected to a server in a different cluster than the cluster that node monitor 28 is allegedly within, in violation of the preceding requirement of claim 26. Therefore, Stone does not disclose the preceding feature of claim 26.

A second example of why claim 26 is not unpatentable over Stone in view of Hickman is that Stone in view of Hickman does not teach or suggest the feature: "providing a control server adapted to monitor an operational status of said communication link, ... **said control server being directly linked to at least two servers in each cluster via a communication channel between the control server and the at least two servers in each cluster**" (emphasis added).

The Examiner argues: "Stone discloses ... a control server adapted to monitor an operational status of said communication link, said operational status of the communication link being that said communication link is operational or non-operational, said control server being

directly linked to at least two servers in each cluster via a communication channel between the control server and the at least two servers in each cluster (¶0078 and ¶0100, teaches the control server (Node Monitor) monitors the operational status of the communication link. Since both the node monitor and service agent can monitor the status, it is obvious to state that if the node monitor(s) either didn't exist or fails then the service agent would be directly connected to at least two servers in each cluster, as shown in Fig. 12)".

In response, Applicants respectfully contend that the Examiner's argument requires that all node monitors in Stone, FIG. 12 either do not exist or are failing. However, Stone does not disclose any embodiment in which even one node monitor does not exist. Therefore, the possibility of any of node monitors 28, 38, 48 in Stone, FIG. 3 is off the table, because Stone does not teach or suggest such a possibility. Furthermore, claim 26 requires that the control server be directly connected to at least two servers in each cluster of clusters 28, 38, 48, which requires that all of node monitors 28, 38, 48 do not exist. However, it is totally outside the scope of Stone's disclosure for all of node monitors 28, 38, 48 to not exist. Therefore, Stone does not disclose the preceding feature of claim 26.

As to the node monitors 28, 38, 48 failing, Stone does not discuss failure of each node monitor of each cluster. Moreover, it is highly improbable and thus not obvious that all node monitors would fail simultaneously, which must happen for the Examiner's argument to be relevant. Furthermore, even if all of servers 28, 38, 48 should fail simultaneously (which is highly improbable and thus not obvious), failure of node monitor 28 breaks the connection between the service agent 97 and at least two servers in cluster 20, so that the service agent 97 would not be connected to at least two servers in cluster 20, and thus not directly connected to at

least two servers in cluster 20, based on the definition of “directly connected” explained *supra*. Therefore, Stone does not disclose the preceding feature of claim 26.

Based on the preceding arguments, Applicants that claim 26 is not unpatentable over Stone in view of Hickman, and that claim 26 is in condition for allowance. Since claims 27, 40-50, 55 and 56 depend from claim 26, Applicants contend that claims 27, 40-50, 55 and 56 are likewise in condition for allowance.

#### Claims 28-39

Applicants respectfully contend that claim 28 is not unpatentable over Stone in view of Hickman, because Stone in view of Hickman does not teach or suggest each and every feature of claim 28.

A first example of why claim 28 is not unpatentable over Stone in view of Hickman is that Stone in view of Hickman does not teach or suggest the feature: “each cluster of the network comprising a plurality of identical servers, each cluster of the network being directly connected to at least one other cluster of the network, wherein each pair of clusters directly connected to each other is characterized by **each server in a first cluster of the pair of clusters being directly connected to at least one server in a second cluster of the pair of clusters via a communication link**” (emphasis added).

The Examiner argues that “(Stone disclose ... a network having a plurality of clusters (fig. 12 (#20, #30, and #40) and ¶0026, teach a network having a plurality of clusters... fig. 12, As the term “directly connected” is defined in the specification and demonstrated by the drawings, in

summary states if there are not any servers intervening between the two servers, the servers are directly connected (pg. 8 ¶2). Therefore, per applicant's definition the control server (Node Monitor), taught by Stone, is directly connected to at least two servers in each cluster, since there are no intervening servers”.

In response, Applicants respectfully contend that in Stone, FIG. 12, the node monitors 28, 38, and 48 are outside the clusters 20, 30, and 40 and therefore do not satisfy the requirement in the preceding feature of claim 28 which recites that the servers that are directly connected to each other are servers in different clusters. Since the node monitors 28, 38, and 48 are not in the clusters 20, 30, and 40, Applicants assert that Stone does not disclose the preceding feature of claim 28

In further response, Applicants respectfully contend that even if node monitor 28 is within cluster 20 (which it is not), node monitor 28 is connected to servers 21-23 in cluster 20, but is not connected to any server in clusters 30 and 40, which means that node monitor 28 is not directly connected to any server in clusters 30 and 40, based on the definition of “directly connected” explained *supra*. Therefore, Stone does not disclose that node monitor 28 is connected to a server in a different cluster than the cluster that node monitor 28 is allegedly within, in violation of the preceding requirement of claim 28.

Therefore, Stone does not disclose the preceding feature of claim 28.

A second example of why claim 28 is not unpatentable over Stone in view of Hickman is that Stone in view of Hickman does not teach or suggest the feature: “monitoring an operational status of a first communication link between a first server of the first cluster and a second server

of the second cluster, said monitoring being performed by the control server, said monitoring including sending a query signal to the first server, said query signal requesting the first server to send a response signal to the control server indicating the status of the first communication link, said operational status of the first communication link being that said first communication link is operational or non-operational” (emphasis added).

The Examiner argues: “Stone disclose ... (§0044, teaches that the node monitor is able to test links from other networks other than it's specific cluster to determine the operational status. Likewise, 110078, teach the node monitor testing the communication links by using the conventional method of ping. Therefore, when using this method a reply is requested and returned).”

In response, Applicants respectfully contend that the Examiner has incorrectly described Stone, §0044 which recites: “Node monitor 28 monitors the nodes for web servers 21, 22, 23, and can also monitor any **sub-networks associated with these nodes**” (emphasis added). In other words, Stone, §0044 does not teach that a node monitor is able to monitor an operational status of a communication link between servers different clusters as required by claim 28. Instead, Stone, §0044 teaches that a node monitor is able to monitor an operational status of sub-networks of servers within the cluster that the node monitor is associated with.

Furthermore, Stone, §0078 teaches that the node monitor can periodically ping a node, which would enable the node monitor to monitor an operational status of the node that is pinged. However, Stone, §0078 does not teach that the node monitor can monitor the operational status of a communication link between servers of different clusters as required by claim 28.

Therefore, Stone does not disclose the preceding feature of claim 28.



Based on the preceding arguments, Applicants respectfully maintain that claim 28 is not unpatentable over Stone in view of Hickman, and that claim 28 is in condition for allowance. Since claims 29-39 depend from claim 28, Applicants contend that claims 29-39 are likewise in condition for allowance.

### CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account 09-0457 (IBM).

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